

MULTIMEDIA



UNIVERSITY

STUDENT IDENTIFICATION NO

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MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 1, 2017/2018

BKC3034 – BUSINESS SYSTEMS ANALYSIS AND DESIGN (All Sections / Groups)

23 OCTOBER 2017
9:00 a.m. – 11:00 a.m.
(2 Hours)

INSTRUCTION TO STUDENTS

1. This paper consists of 5 pages with **TWO** sections only.
2. Answer **ALL** questions in Section A and Section B. The distribution of the marks for each question is given.
3. Please write all your answers in the answer script provided.

SECTION A: CASE STUDY

Answer ALL questions.

Blue Sky Mutual Funds: A New Development Approach

Jim Williams, vice president of finance for Blue Sky Mutual Funds, spoke first. "There are some things I like about this new approach, but other things worry me," he told Gary Johnson, the company's director of information technology.

"This idea of 'growing' the system through several iterations makes a lot of sense to me. It is always hard for my people to know exactly what they need a new information system to do and what will work best for the company. So, if they can get their hands on the system early, they can begin acceptance testing and try it out to see whether it addresses their needs in the best way.

"Let me see if I understand the big picture, though. Your development team and my investment advisors will decide on a few core processes that the system needs to support and then your team will design and build a system to support those core processes. You will do that in a mini-project that will last about six weeks. Then, you will continue adding more functionality through several other mini-projects until the system is complete and functioning well. Is that right?"

Jim was becoming more enthusiastic about this new approach to system development.

"Yes, that's the basic idea," Gary said. "Your users need to understand that the first few versions of the system won't be complete and may not be completely robust either. But these early versions will give them something to work with and try out. We also need good feedback from their acceptance testing so the system will be thoroughly tested by the time we are through."

"I realize that," Jim said. "My people will like not having to think from the very beginning about everything they need the system to do. They'll like being able to try things out. As I said earlier, I like this approach. However, the part I don't like about this approach is that it will be more difficult for you to give me a firm time schedule and project cost. That worries me. In the past, those have been two of the major tools we used to monitor a project's progress. Are you saying that now we won't have a schedule at all? And you want an open budget?" Jim frowned.

"It's not as bad as it first sounds," Gary said. "This approach is an 'adaptive' approach, by which I mean that because the system is growing, the project is more open ended. The project manager will still create a schedule and estimate the project costs, but she won't even try to identify and lock in all the required functionality for several of the iterations. Because the system's scope is going to continually be refined over the first few iterations, there is the risk of 'scope creep.' That is one of the biggest risks with adaptive approaches. You and I should meet with the project manager fairly frequently to ensure that the scope is controlled and the project doesn't get out of control."

Continued...

“Okay,” Jim said. “You have convinced me to try this new approach. However, let’s treat this project as a pilot and see how it works. If it’s successful, we will consider using this iterative approach on our other projects.” Jim and Gary agreed that a pilot was the best way to get started. Gary then headed off to meet with the project manager and get the project started.

Source: J. Satzinger, R. Jackson, & S. Burd, *Systems Analysis & Design in a Changing World*, 6th ed., 2012.

QUESTION 1

- a. What is the assumption of an adaptive approach to SDLC?
(2 marks)
 - b. What are the issues that Jim is struggling with in taking this approach and why?
(6 marks)
 - c. According to Gary, a risk that may exist with the adaptive approach is “scope creep”. Define “scope creep” and provide a solution to minimize this risk.
(5 marks)
 - d. What are **TWO (2)** benefits of an adaptive approach?
(4 marks)
 - e. Describe **TWO (2)** other adaptive models apart from the iterative model.
(8 marks)
- (Total: 25 marks)

Continued...

SECTION B: ESSAYS

Answer ALL questions.

QUESTION 2

- a. Developing information systems is not just about writing programs. Information systems are developed to solve problems for organizations, and a systems analyst is often thought of as a problem solver rather than a programmer. A systems analyst uses a generic problem-solving approach to systematically understand and solve the problem. Outline these steps.
(8 marks)
- b. List **FOUR (4)** primary areas that are considered in risk and feasibility analysis.
(8 marks)
- c. The Scrum approach has the objective of being quick, agile and intense, and to go the entire distance. One of the important Scrum areas is the organization. Describe the **THREE (3)** main organizational elements that affect a Scrum project.
(9 marks)

(Total: 25 marks)

QUESTION 3

- a. When considering a hosting alternative for Internet deployment, there are five areas that must be considered. Describe each of the **FIVE (5)** areas.
(10 marks)
- b. What is *storyboarding*? Provide **TWO (2)** benefits of using storyboarding.
(4 marks)
- c. What are **THREE (3)** differences between *integration testing* and *system testing*?
(6 marks)

(Total: 20 marks)

Continued...

QUESTION 4

- a. Read the narrative below of a partial process:

When an order comes in, the order processing clerk checks the customer's credit file to confirm credit approval and ensure that the amount falls within the credit limit. If either of these conditions is not met, the order is rejected and the customer is informed on the rejection. If an order meets both conditions, the order-processing clerk enters it into the system on a standard order form. The information on the form is used to update the company's customer file, and the form is placed in the company's open order file.

Before preparing a packing slip based on the orders, the system checks the inventory records to determine whether the company has the products ordered on hand. If the items are in stock, a packing slip is prepared and sent to the warehouse.

Develop a **logical level-0 DFD** for the above process.

(10 marks)

- b. Read the narrative below:

A commuter who needs to buy a ticket starts the session. Ticket vending machine will request trip information from Commuter. This information will include number and type of tickets, e.g. whether it is a monthly pass, one way or round ticket, route number, destination or zone number, etc. Based on the provided trip info ticket vending machine will calculate payment due and request payment options. Those options include payment by cash, or by credit or debit card. If payment by card was selected by Commuter, another actor, Bank will participate in the activity by authorizing the payment. After payment is complete, ticket is dispensed to the Commuter. Cash payment might result in some change due, so the change is dispensed to the Commuter in this case. Ticket vending machine will show some "Thank You" screen at the end of the activity.

Develop an **activity diagram** for the processes described above.

(11 marks)

Continued...

c. Read the description below:

Customer uses bank ATM to Check Balances of his or her bank accounts, Deposit Funds, Withdraw Cash and/or Transfer Funds. ATM Technician provides Maintenance and Repairs. All these use cases also involve Bank actor whether it is related to customer transactions or to the ATM servicing. ATM Technician maintains or repairs Bank ATM. Maintenance use case includes Replenishing ATM with cash, ink or printer paper, Upgrades of hardware, firmware or software, and remote or on-site Diagnostics. Diagnostics is also included in Repair use case.

Develop a **use case diagram** for the Bank ATM system described above for all actors.
(9 marks)

(Total: 30 marks)

End of paper